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Army Service Forces
Quartermaster Corps
CLIMATIC RESEARCH LABORATORY
Lawrence, Massachusetts

CLASSIFICATION CHANGED	
TO	UNCLASSIFIED
AUTH	Letter OMRDW-I
DATE	12 Oct 54
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Monthly Report - 1 September 1945

1. Volume VII of the Reports of the Wet-Cold Field Trials was submitted to the Office of The Quartermaster General for the approval of Brig. Gen. Georges F. Doriot. The contents of this volume were enumerated in the Monthly Report of 1 August 1945.

2. Volume VIII, the concluding volume of the above reports has been prepared and is being reproduced. This volume is entitled Miscellaneous and contains a discussion of the following: Subsistence Items, Dump Storage, Anthropometric Observations, Statistical Treatment of and Evaluation of Quantitative Data obtained in Field Testing, and Evaluation of Field Testing and Recommendations for Future Field Trials.

3. The following numbered reports were submitted for approval:

Report No. 168 - 27 August 1945

Socks, Felt, 56 oz.

Comfort, Fit, Thermal Insulation and Moisture Disposition

Nine Tables and Ten Figures

A 56 oz. felt sock was evaluated as a substitute item for Socks, Wool, Ski to be worn inside of the Shoopac, M-1944. Physiological studies of thermal insulation and moisture disposition were conducted in the Cold Room at plus 20°F. with socks before and after laundering. Comfort and fit were investigated by soldiers marching on the treadmill in the Cold Room and marching in Parker Forest. Physical measurements of moisture pickup and thicknesses were collected in the laboratory.

It was concluded that:

a. The thermal insulation of the felt sock is equal to two wool socks under all conditions tested.

b. The design of the sock originally submitted is less desirable than a modified design.

c. The difference in moisture pickup is not of sufficient magnitude to be of practical importance.

d. The moisture disposition rate is higher for the felt sock than for the ski sock.

e. Wear has the same effect upon the thickness of either the felt or wool sock.

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R E S T R I C T E D

f. The felt sock, improved design, appears to be an acceptable substitute for the wool sock as worn in the Shoepac, M-1944.

Report No. 199 - 31 August 1945

Candles - Twelve Types

Comparison of Military Characteristics in Environmental Extremes.
Ten Tables and Forty Figures

Twelve types of candles were evaluated in the Cold Room at exposure temperatures as low as minus 40°F., in the Jungle Chamber at temperatures as high as 120°F., and in the laboratory. Included in the evaluation were burning characteristics, light output, heat output, wind resistance, maintenance of burning position, suitability for carrying in packs and pockets and ability to withstand storage at high temperatures. The twelve types of candles varied in respect to size, method of manufacture, stearic acid content, size of wick and presence of metal cup containers.

It was concluded that of the cylindrical-type candles, only the molded forms with from 15 to 30 percent stearic acid were satisfactory for field use.

4. A total of four classes on the use of Wet-Cold Clothing and Equipment have been conducted by the laboratory staff at Lawrence and on Mt. Washington, New Hampshire.

5. In the Provisional Reports during the month, tests on the following items were discussed:

Flameproof Clothing
Clothes Drier
Wool Field Trousers
Shine on Flesh-Out Boots
Substitute for Wool Ski Socks
Flee Sleeping Trousers
Arctic Sleeping Bag
Wind-Resistant Safety Matches

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